

**Notice of Allowability****Application No.**

10/667,203

**Applicant(s)**

HINSHAW ET AL.

**Examiner**

KIMBERLY LOVEL

**Art Unit**

2167

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment file 6 November 2009.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 11/6/09
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20100107.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.



**DETAILED ACTION**

***Response to Amendment***

1. This communication is in response to the Amendment filed 6 November 2009.
2. In the Amendment filed 6 November 2009, none of the claims are amended. As a result of the Amendment filed 6 November 2009 and the Examiner's Amendment stated below, claims 1-14 are allowed.

***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 November 2009 has been entered.

***Terminal Disclaimer***

4. The terminal disclaimer filed on 13 January 2010 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Information Disclosure Statement***

5. The information disclosure statement (IDS) submitted on 6 November 2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***35 USC § 101 - Clarification***

6. Claims 1-14 are directed towards a Programmable Streaming Data Processor (PSDP), which comprises at least a streaming data interface, a streaming interface First In First Out, a data engine, a tuple generator and an output FIFO device. The examiner construes the PSDP as representing an apparatus. The data engine as defined in page 17, lines 16-18 of the Specification filed 18 September 2003 is programmable hardware. Therefore, claims 1-14 are considered to meet the 35 USC 101 requirements of the statutory category of an apparatus.

***Examiner Amendment***

4. Authorization for this examiner's amendment, listed below, was given in a telephone interview with Benjamin Sparrow (Reg. No. 62,259) on 11 January 2010.

**In the Claim:**

Please amend claims 2-14 as follows:

2. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein the use or

lose decision value indicates a result from logic processing of fields read from the streaming data interface.

3. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein the use or lose decision value indicates a result from Transaction Identifier (TID) processing.

4. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 3 wherein the TID processing and data engine logic execute in parallel.

5. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein the output tuple is greater in length than an expected predetermined size, and the use or lose decision value is then used to set an overflow field in the output tuple.

6. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 5 wherein the use or lose decision value is not asserted when a buffer local to the programmable data streaming processor is full; and means for appending an overflow filter bit to a tuple that indicates a transfer of a tuple that should be ignored.

7. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 additionally comprising: a Direct Memory Access (DMA) interface, coupled to the output FIFO, to provide direct access to a memory in the JPU.

8. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein the use or lose decision value is used to reset an output FIFO write pointer so any prior fields in the output tuple are discarded.

9. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein an overflow filter bit is inserted in a length field appended to the output tuple.

10. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein an

invalid field is appended to a tuple to indicate the results of Transaction Identifier (TID) processing.

11. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 10 wherein the results of TID processing indicate that a tuple is to be returned.

12. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 10 wherein the invalid field indicates that the tuple should not have been returned but the output FIFO overflowed.

13. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 further comprising: a register reflecting ~~the a~~ final PSDP status which is read by a Central Processing Unit (CPU) to identify whether any overflow or Transaction Identifier (TID) status bits are set in any of the tuples.

14. (Currently Amended) ~~An apparatus~~ The PSDP as in claim 1 wherein the use or lose decision value represents DeMorgan's Law reduction of multiple instructions.

### ***Reasons for Allowance***

5. The following is an examiner's statement of reasons for allowance:

In the Examiner's Final Office Action dated 8 July 2009, claims 1-14 were rejected under 35 USC 103 based primarily on US Patent No 6,434,649 to Baker et al; US PGPub 2003/0126056 to Hausman et al; and US Patent No 5,983,270 to Abraham et al.

The claimed invention is directed towards a Programmable Streaming Data Processor arranged to perform initial processing functions on a set of data, comprising

of a streaming data interface, a streaming interface First In First Out, a data engine, a tuple generator and an output FIFO device. The processor determines field boundaries within non-field delineated data, selects one or more of the fields to assemble into output tuples, determines whether or not the output tuple is to be further processed by an additional Job Processing Unit based on a use or lose decision.

The prior art of record, Baker et al, Hausman et al and Abraham et al, do not show, teach or suggest the features of, **a data engine, arranged to receive the non-field delineated output data from the streaming interface FIFO, recognize the record and field structure of the non-field delineated data, determine field boundaries in the non-field delineated data, and process fields to select one or more fields to be assembled into output tuples, the data engine also containing logic arranged to determine whether an output tuple is to be selected for further processing by additional Job Processing Units (JPUs) and to assert a use or lose decision value according to that determination and a tuple generator, arranged to assemble fields into the output tuple and, if the use or lose decision value indicates that such output tuple is to be discarded, to prevent the output tuple from being transferred for further processing by the JPU** in combination with the other claimed features.

Referring to Applicant's arguments on page 5-9 of the Remarks, the Applicant argues "The combination of Baker, Hausman and Abraham is not configured to recognize the record and field structure of non-field delineated data. ... Accordingly, Hausman's API 104 receives field-delineated data, and so is not arranged to "recognize

the record and field structure of the non-field delineated data" nor "determine field boundaries in the non-field delineated data" as recited in Claim 1."

Applicant's arguments have been fully considered and are persuasive.  
Therefore, the 35 USC 103 rejections of claims 1-14 have been withdrawn.

An updated search for prior art on the EAST database and on the domains (NPL-ACM and Google) has been conducted. The prior art searched and investigated in the database and domains does not fairly teach or suggest the teaching of the claimed subject matter as described above and reflected by the combined elements in independent claim 1. Claims 2-14, which depend on claim 1, are allowed for the same reasons as indicated above for claim 1.



***Contact Information***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIMBERLY LOVEL whose telephone number is (571)272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/John R. Cottingham/  
Supervisory Patent Examiner, Art Unit 2167

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Examiner  
Art Unit 2167

14 January 2009  
/KL/